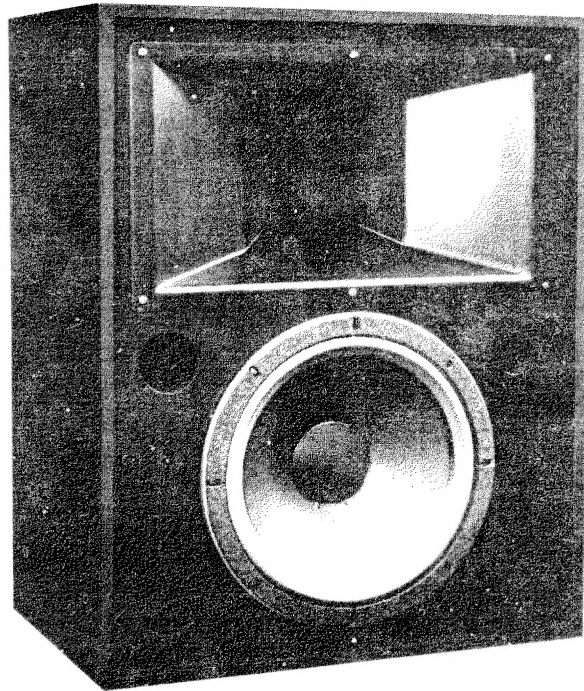


HIGH ACOUSTIC OUTPUT



M500 Maestro Monitor - High Output Performance!

- HIGH ACOUSTIC OUTPUT 250 WATT
- FRONT MOUNTED COMPONENTS
- RUGGED PASSIVE CROSSOVER
- TWO-WAY VENTED SYSTEM
 - 16" DIRECT RADIATOR
 - 909 DRIVER AND HORN
 - "T"-NUT SUSPENSION

APPLICATIONS

- Music Playback in Conference Facilities
- Small Dance Environments
- Simple Cluster in Houses of Worship

SPECIFICATIONS FOR THE M500 MAESTRO MONITOR TWO-WAY SYSTEM

System Type: Two-way, vented, full range loudspeaker system.

Pressure Sensitivity: 96.5 dB SPL (1W, 500 Hz - 3kHz, re: 20 μ Pa, see Note 1)

Frequency Response: 46 Hz - 20 kHz (see Figure 1, Note 2)

Power Handling: 250 watts, 80 Hz - 20 kHz, AES method (see Note 3)

Maximum Long-Term Output: 120.5 dB SPL (250 watts input, 1m, re: 20 μ Pa, see Note 4)

Impedance: 6.8 ohms minimum, maximum inductive phase angle = 39° @ 1028 Hz, maximum capacitive phase angle = 41° @ 9 Hz, (see Figures 3 and 4, Note 5)

Distribution Pattern: 90° horizontally x 40° vertically (see Figure 8).

Components: Model 3154 low frequency loudspeaker, model 909-8A high frequency driver, model MR994A Mantaray® high frequency horn.

Crossover Network: Part number 56-06-027908, at 630 Hz, with choice of high frequency attenuation.

Enclosure: Vented type for optimum response, built of 3/4" (1.9 cm) black stained birch plywood (unfinished veneer model; 9815-8A) with appropriate bracing and stiffeners, lined with glass wool, including 5/16" tee-nut mounting points on each side and a removable grille.

Input Connection: Red and black five-way binding posts.

Replacement H.F. Diaphragm: Model 26420

Replacement L.F. Recone Kit: Model R3154

Replacement Grille: RG-M500

Dimensions: 33" (83.8 cm) high
26 1/2" (67.3 cm) wide
17 1/2" (44.5 cm) deep
86 lbs. (39.1 kg)
98 lbs. (44.5 kg)

Net Weight: 86 lbs. (39.1 kg)

Shipping Weight: 98 lbs. (44.5 kg)

Finish: Black stained birch veneer (M500) and unfinished birch veneer (9815-8A), black grille cloth.

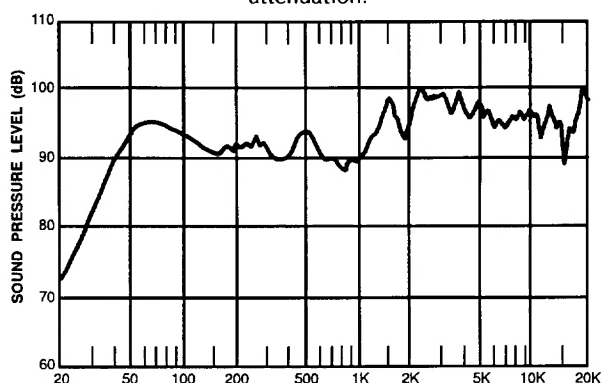


Figure 1. Frequency Response (See Note 2)

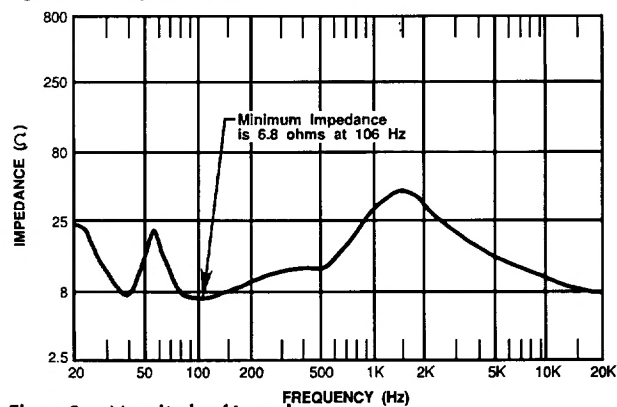


Figure 3. Magnitude of Impedance

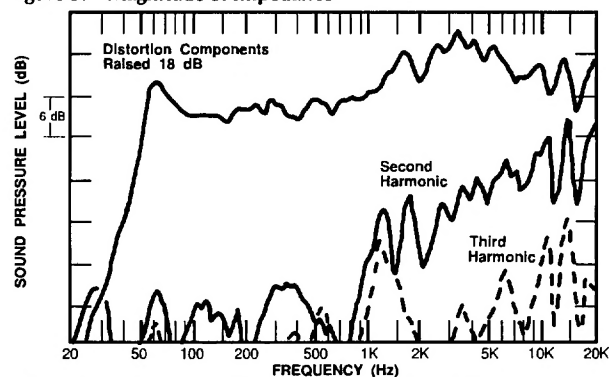


Figure 5. Harmonic Distortion at 0.01 Rated Power (2.5 watts, See Note 7)

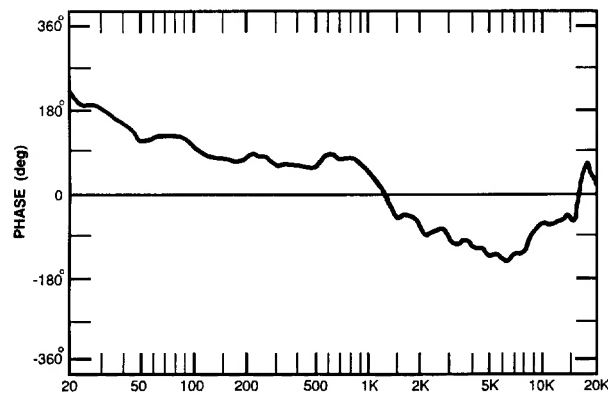


Figure 2. Phase Response (See Note 6)

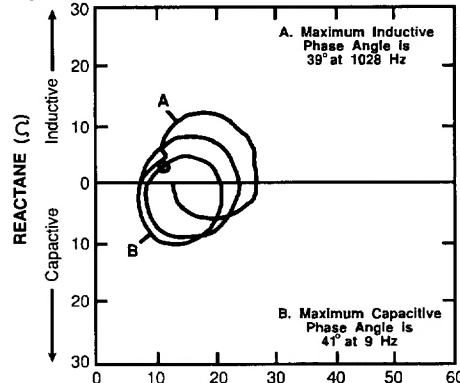


Figure 4. Complex Impedance

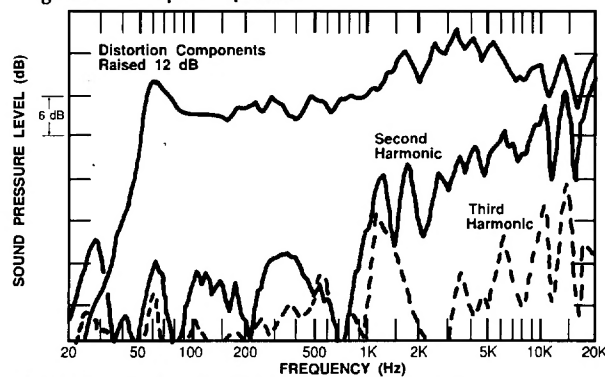
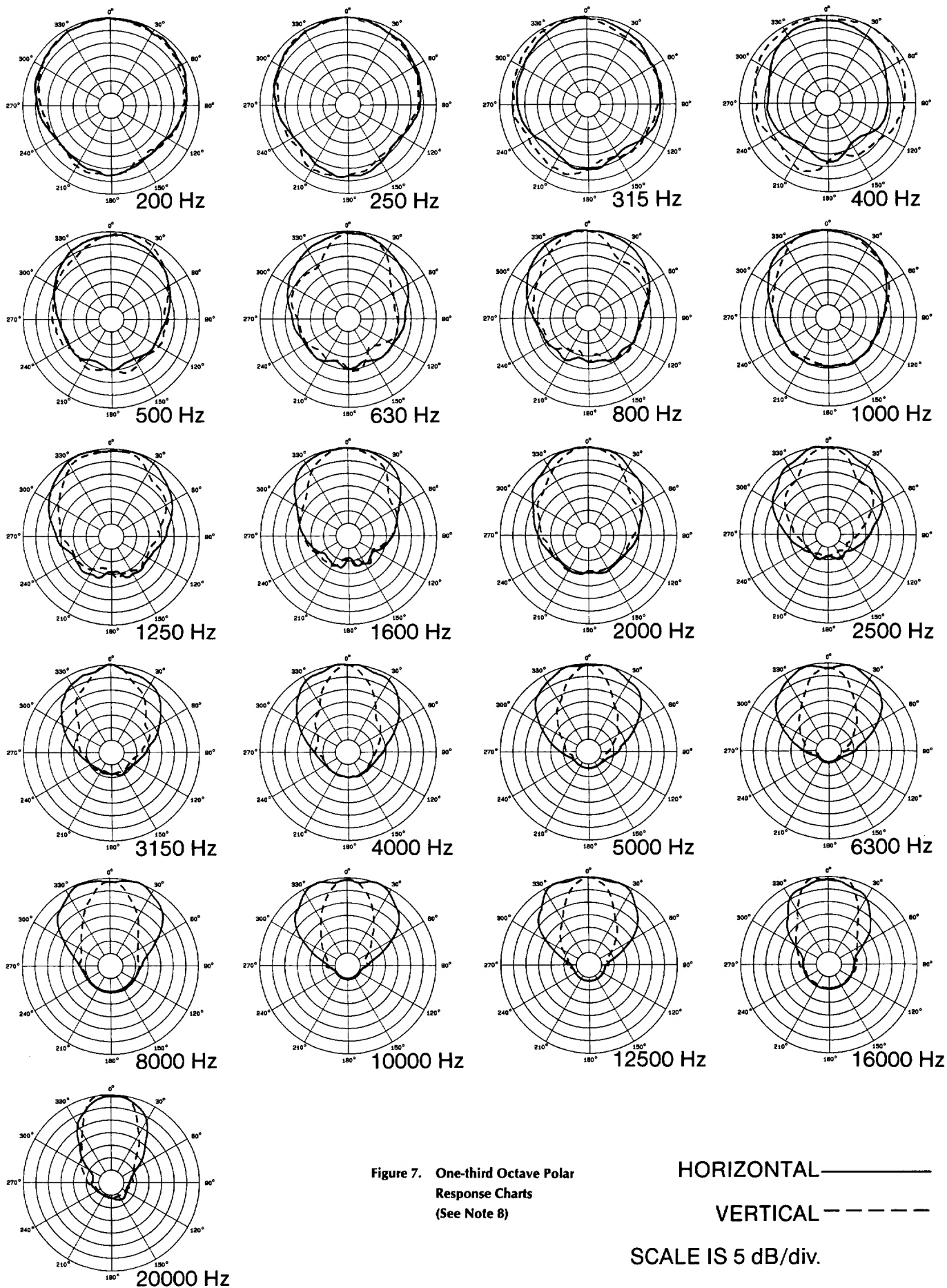


Figure 6. Harmonic Distortion at 0.1 Rated Power (25 watts, See Note 7)



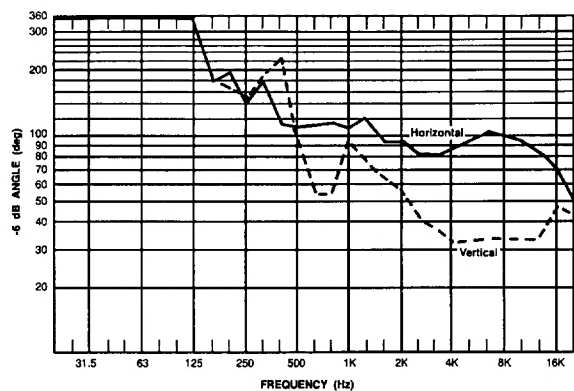


Figure 8. Coverage Angle

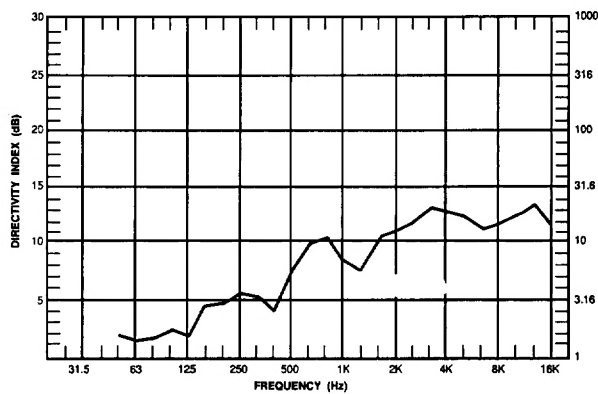


Figure 9. Q and DI

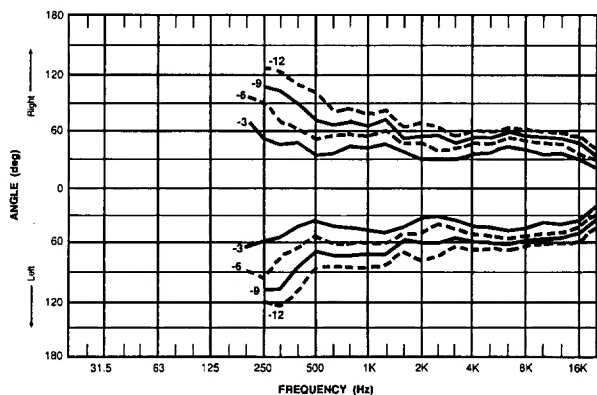


Figure 10. Horizontal Off-Axis Response Contours

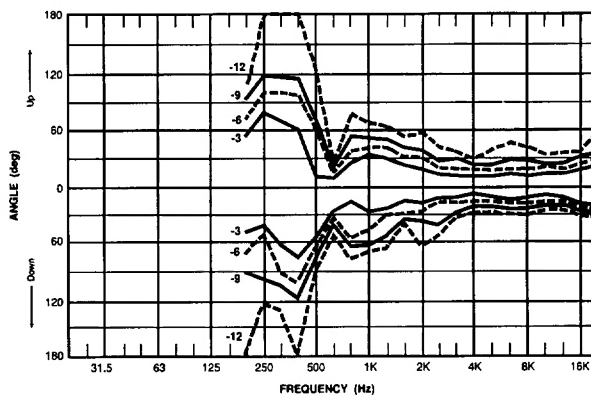


Figure 11. Vertical Off-Axis Response Contours

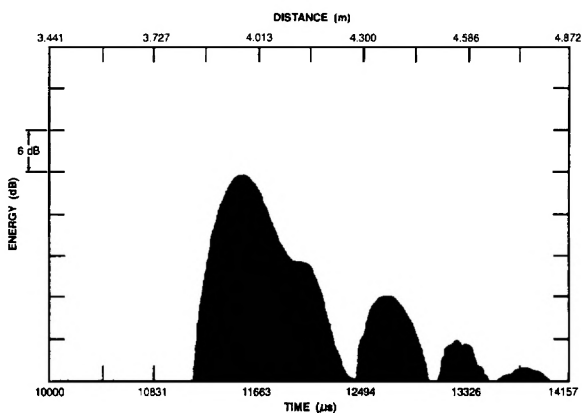


Figure 12. Energy Time Curve (See Note 9)

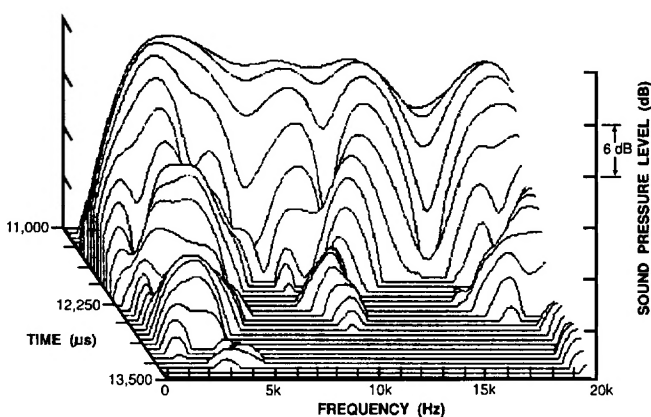
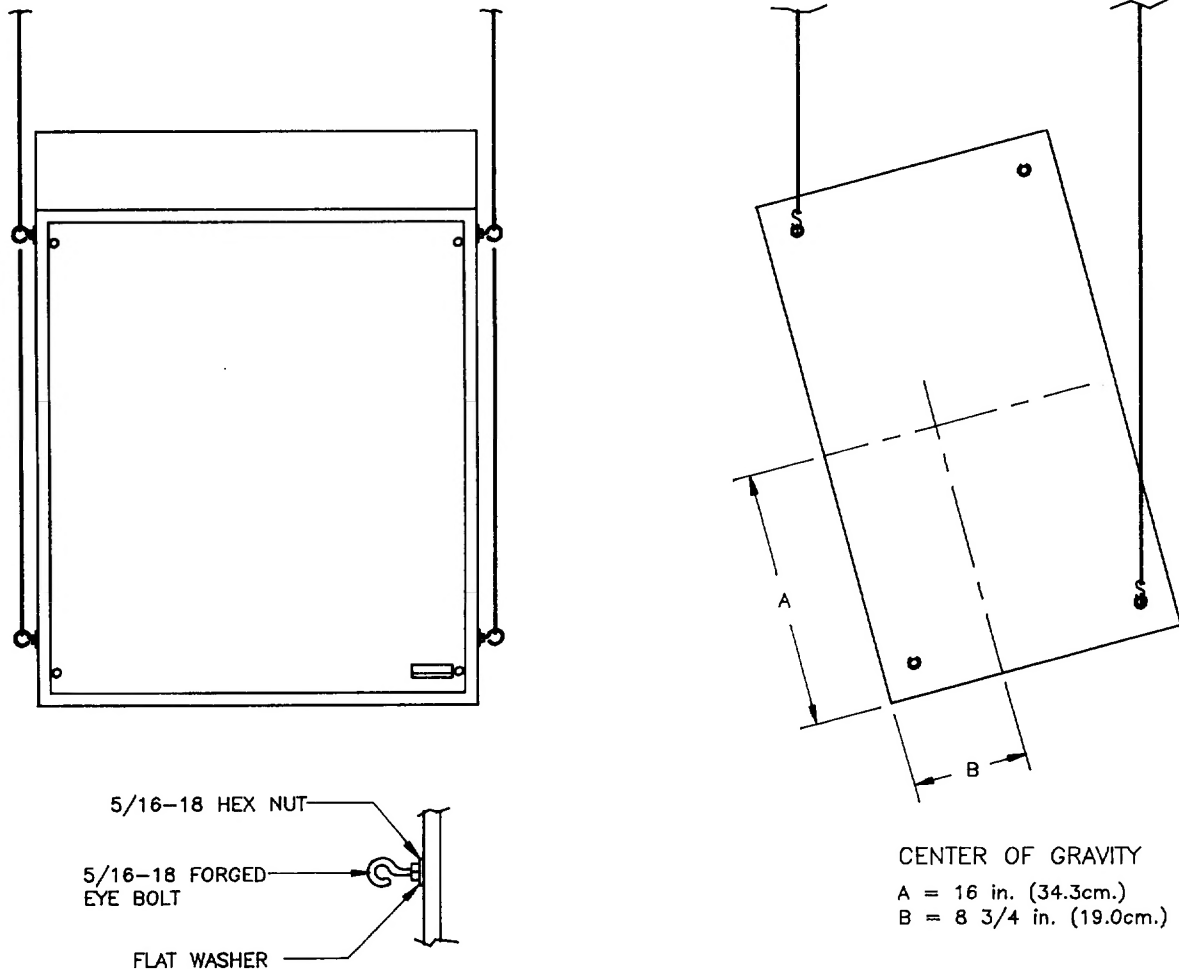


Figure 13. Time Energy Frequency Curve (See Note 10)

NOTES ON MEASUREMENT CONDITIONS

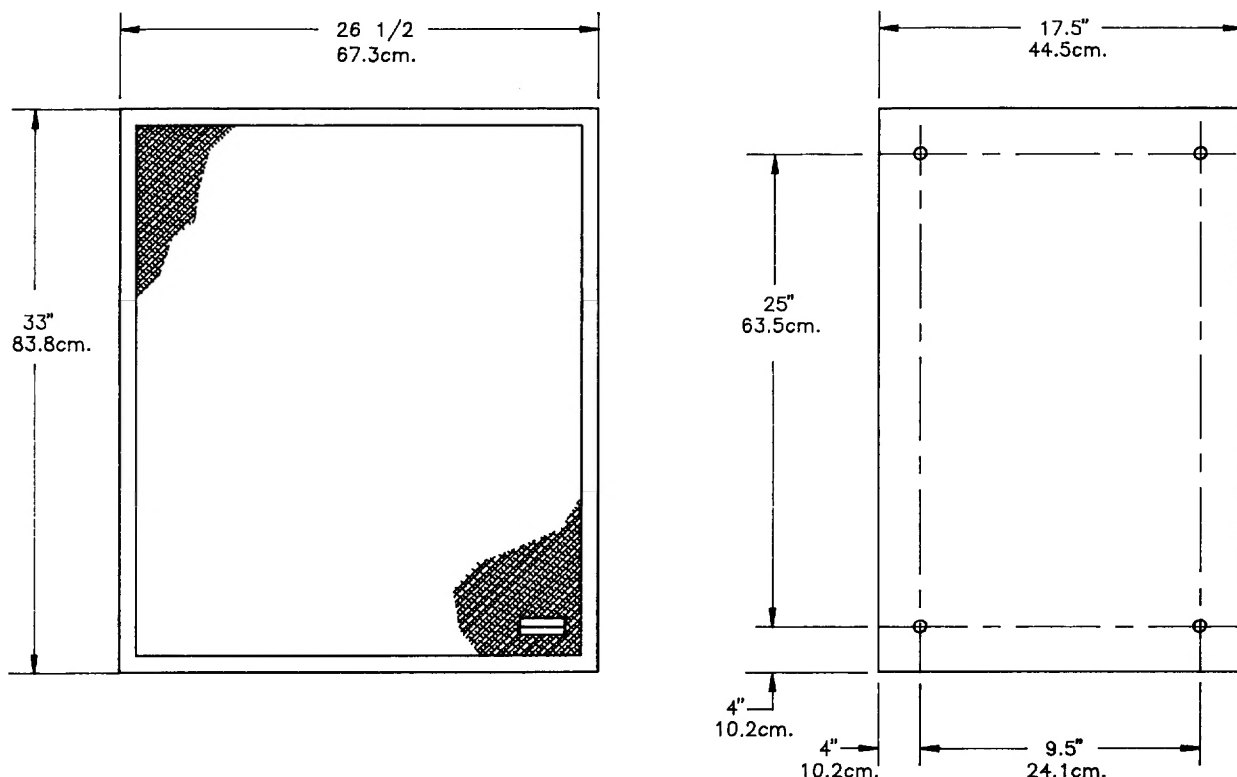
1. Pink noise signal, one Watt calculated using E^2/Z_{min} , 3.16 meter measurement distance referred to one meter.
2. On-axis, one Watt calculated using E^2/Z_{min} , 3.16 meter measurement distance referred to one meter, low frequencies corrected for anechoic chamber error.
3. This system rating patterned after the AES method for individual driver, where the test signal is pink noise with 6 dB crest factor over the bandwidth of the system, with power calculated using E^2/Z_{min} , for two hours.
4. This measurement made under the same conditions as Pressure Sensitivity, but at rated power, and takes into account any power compression effects due to non-linearities in the system.
5. The loudspeaker system should be connected to the 8-Ohm tap on amplifiers using transformer coupled output sections.
6. Phase response of the system is measured at a time corresponding to the energy arrival of the high frequency component where the amplitude response is optimally flat, as noted on figure 12.
7. Distortion components invalid above 10 kHz. The distortion at any given frequency may be found by graphically taking the difference between the fundamental and harmonic, adding the number of Decibels which the harmonic has been raised on the graph and apply the formula:

$$\text{percent distortion} = 100 \times 10^{(-\text{dB change}/20)}$$
8. The axis of rotation for all polar plots is the apparent apex of the high frequency driver. Plots below 200 Hz have not been shown because of their lack of pertinent information.
9. The time window has been chosen to resolve the arrival times of the low and high frequency components. Frequency bandwidth of the measurement, 0 Hz - 20 kHz.
10. Response decay of the system. Time window is selected to display loudspeaker and box characteristics without room reflections.



LOUDSPEAKER SYSTEM IS SHOWN SUSPENDED WITH
LOW FREQUENCY DRIVER TOWARD THE BOTTOM.

Figure 14.



LOUDSPEAKER SYSTEM IS SHOWN WITH LOW
FREQUENCY DRIVER TOWARD THE BOTTOM

Figure 15.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The loudspeaker shall be the Altec Lansing Maestro Series M500. It shall be of the two-way bass reflex type, consisting of a front mounted 16-inch (40.6 cm) low-frequency loudspeaker, a high-frequency compression driver on an injection molded constant directivity horn, and a dividing network having a crossover frequency of 630 Hz. The loudspeaker system shall meet the following performance criteria: Power handling, 250 watts of pink noise with 6 dB crest factor, band width limited from 48 Hz to 20 kHz. Frequency response, smooth and uniformly usable at high levels from 48 Hz to 20 kHz. Pressure sensitivity, 96.5 db SPL at one watt, 500 Hz to 3 kHz, measured at a

distance of one meter on axis. Impedance, 8 ohms nominal, 6.8 ohms minimum. Distribution pattern 90° horizontally nominal from 2 kHz to 20 kHz x 40° vertical nominal from 2 kHz to 20 kHz with asymmetrical coverage in the vertical plane. The enclosure shall be constructed of braced 3/4-inch (1.9 cm) birch plywood damped with sound absorbing glass wool. The M500 shall have a black stained finish. The dimensions shall be 33 inches high by 26 1/2 inches wide by 17 1/2 inches deep (83.8 cm high x 67.3 cm wide x 44.5 cm deep). The loudspeaker system shall weigh 86 lbs. (39.1 kg).



a MARK IV company

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